ST INDEX 14

a FEW NOTES............

I want to thank everyone for supporting this magazine this year and hope you
will continue to support us in 1988. There are many plans on the table for
you in 1988. More coupon offers, special discounts and details on a contest
starting very soon in the future.

This publication will be the primary publication in 1988. Zmagazine is slowly
beginning to be over taken by ST-Report and if this progress continues, I will
have to decide which of the two gets more attention.

Starting in January, ST-Report goes to a weekly format with columns being
displayed on a bi-weekly basis. An example would be Mr. Goodprobes column
will appear every other week along with Calamity Jane's "Garbage On The Line".

If you would like to see your ideas implemented here, Please give me a call on
the ZMag BBS at (201) 968-8148 and I will be happy to chat with you, or send
me a letter to: ZMagazine/ST-Report
                Post Office Box 74
                Middlesex, New Jersey 08846-0074

Merry Christmas everyone and hopefully see you again in Issue #15 with our
end of year ST-Report.

GFA BASIC ERRATA

by Ron Hunter

Thanks to Gordon Monnier for permission to quote the manual in this document.

Gfa Basic is by far the most impressive piece of software I have yet seen for
the Atari ST line of computers. It is the Basic the machine deserves, and
should have been shipped with the machine from the beginning. Beside it, ST
Basic is a poor excuse for ANYTHING. However, in the mad rush to bring this
fine program to the North American ST user, Michtron had little time to devote
to the manual. What we have is a fast translation of the German version of the
manual. There are numerous errors, mistranslations, and partial translations.
In fact, one need only turn to page one to find the first of these. It is true
that Gfa Basic is a giant step forward, but didn't they mean to have a

Foreword, rather than a Forward?

Michtron informs me that they have a new, completely rewritten manual at the printers, which they will make available to all users for a minimal charge. Until this new manual arrives, I hope this document will help.

Page 1.
Change Forward to Foreword.

Page 2.
Add - 'digits.' after ...works with an accuracy of 11

Page 3.
Paragraph 2. Forward - change to Foreword.

Note that paragraph 3 last line should read: command IF....THEN has been modified:

Page 5.
Paragraph 4. Change 'straight away' to immediately. (readability only).

Page 6.
Next to last paragraph. Should read: Only one BASIC command can be accepted per

program line. One program line can contain a maximum of 255 characters of use at the most 255 bytes of storage. As an example, 1.3 will require about 6 bytes

of ram, and strings such as "***", 4 bytes in the line, and about 10 in ram, it

is possible to recieve the message "LINE TOO LONG" even if far less than 255 characters have been entered.

Last Sentence. Should read: The rest of the program is not altered.

Page 7.
First paragraph. Should read: After terminating input by pressing, for example,

<RETURN>, the first 79 program characters will be displayed followed by the 'right arrow' sign, which indicates that the line is more than 80 characters long and that, therefore, the complete line cannot be displayed at once.

Page 8.
Before line beginning <F8>. Add. As the first mouse click only moves the cursor

to the beginning of a line if a line is left using the mouse, a second click may be necessary to position the cursor within the line.

Page 9.
After the <UNDO> paragraph. Add: NOTE: LINES AND/OR BLOCKS DELETED CAN **NOT**

BE RECOVERED WITH <UNDO>.

Page 13.
Last example (hide). Should read: <H> (=HIDE) Deletes the block markers, and hi-lighting. No changes are made.

Page 14.
<F1> (=LOAD) Should read: Loads a program from a storage device. The search path *.GFA is preset. Any program which is in the Editor at the time will be overwritten WITHOUT WARNING!

(Though it is not officially sanctioned by Michtron, or Gfa, users have agreed,

generally, to use the extender 'GFA' for Gfa Basic programs to avoid confusion on BBSs and Library disks. A simple sector editor can change your working copy to make this extender the default.)

<SHIFT>+<F2> (=SAVE,A) Should read: Saves the program in the editor as a text file. If there is no extender, .LST is used.

<F9> (=FLIP) Should read: Switches to the display screen. (see Foreword).

Page 16.
^Z Should read: ^Z   Cursor moves to end of program

Page 17.
Add at top of page. ^H   Hide Block (Remove marks)

Page 24.
(). Should read. ()   Parentheses have the highest priority. They are used

to control order of precedence.

^   Exponentiation.

Page 31.
Last paragraph. Should read: The absolute value of a numerical expression is always greater than or equal to 0.

Page 32.
In example. The example should read:

```
T=Timer
For Z%=1 to 10000
  Add a%,5
Next Z%
Print (Timer-T)/200
A%=0
T=Timer
For Z%=1 to 10000
  A%=A%+5
Next Z%
Print (Timer-T)/200
```

Page 33.
Replace page.

Graphics Command ALERT

How: ALERT a,m$,b,b$,c

Abbr: A

Example:
```
M$="Hey!|How are you feeling?"
Alert 2,M$,1,"Good|Bad",B
Print B
```

Purpose: Creates a GEM Alert Box.

Explanation: An ALERT box makes it possilbe to warn or inform the user of a condition, or to request information with up to 3 choices to choose from. Parameter 'a' chooses the icon which will be displayed in the ALERT box:

0 = No icon
1 = !
2 = ?
3 = STOP sign

Parameter 'm$' is a character string expression, which contains the main text. It can be up to a maximum of 4 lines with up to 30 characters per line. The string is divided into lines by the character '|' placed in the string to designate division of the string into displayed lines. Lines longer than 30 characters will be shortened, lines in excess of 4 will be omitted.

It is possible to highlight one of the buttons by specifying the button number with 'b' where 'b' is a number 0 (for no highlight) to 3. The highlighted button will have a wide border, and may be selected by pressing <RETURN>.

The number of the chosen button is returned in 'c'.

Page 37.
Purpose. Should read.

Purpose: Returns the arc tangent of 'x' in radians.

Page 38.
Extra information.

The functions Bin$, Oct$, and Hex$ all return a string of the minimum length necessary to hold the converted value.

Page 44.
Next to last paragraph. Should read: Chdir "\" switches to the root directory. To switch to any other directory, the pathname must be given. This always begins with "\" when starting out from the root directory. For example: Chdir "\VEHICLE\DRIVER" declares the directory with the name DRIVER, in directory VEHICLE of the root directory, as the current directory.

Page 45.
Delete warning.

The warning about changing the drive to 0 is groundless. Nothing happens at all.

Page 60.
Next to last paragraph, first sentence. Should read: There is a pattern table on page 61 of this appendix.

Page 64.
Example:

This example uses a variable I which is easily confused with the number 1. To correct this replace from the For line with:

```
For z=1 to 6
Print "S=";Z;":";
Defline Z,1,0,0
Line 50,25+Z*16,350,25+Z*16
Next Z
```

Page 69.
Purpose. Should read: Purpose: Defines the color, style, rotation and size of text to be displayed by the command TEXT.

Explanation. Last sentence. Should read: 'g' defines the height of the characters in graphic dots: 4=very small (Icon text), 6=standard color (8x8) 13=standard monochrome (8x16) and 32=largest print. Numbers between 6 and 13 yield intermediate sizes of print. There is a break in size after 13 when the print switched from an 8x8 matrix to an 8x16 matrix.

Page 70.
Last sentence. Should read: The command Dfree(0) returns the free space on the default disk.

Page 73.
Extra information.

The Dir command, unlike others requiring file names requires that ALL filenames

be enclosed in double quotes.

Page 75.
Explanation. Should read: 'n' is a numeric express, which represents the value of the disk drive number.

0 = Default (active) drive
1 = A:
2 = B:
...... Etc.

Page 76.
Extra information.

The Div command has an alternate syntax. When used, the alternate syntax yields

an integer divide capability which complements the Mod command.

How: n Div var

Example:
Print 10 Div 3

The result is 3.

Page 80.
Added Note:

Values larger than 3600 for the start, and/or end angles generate seemingly random lines on the screen.

_____

MICHTRON CONTEST

_____

The Michtron RT is having a contest! The contest is divided into two categories. The most uploads by an individual and the Best GFA Basic program. To reach the MichTron RT from any menu prompt just type move 490.

There will be 3 winners in each Category.

The Prizes to be Awarded are as follows:

Most Uploads
        1st Prize = $500 worth of your choice of Michtron Software
        2nd Prize = $300 worth of your choice of Michtron Software
        3rd Prize = $150 worth of your choice of Michtron Software

Best GFA Program
        1st Prize = $500 worth of your choice of Michtron Software
        2nd Prize = $300 worth of your choice of Michtron Software
        3rd Prize = $150 worth of your choice of Michtron Software

The rules of the contest are written below. Hope we see you there.

CONTEST RULES
=============
The following are the rules of the Michtron RT Contest.

-Uploader's of all files submitted and accepted in the Michtron RT Software
 library between November 30, 1987 and January 30,1988 will be considered for
 the most number of upload's.

-For a file to be counted as an upload it must have something to do with one of

 the Michtron products. In other words it must either have used one of Michtron

 products or be an example of their usage or an aid in their use.

-File's will not be accepted which are:

  * Duplicates of existing programs in the Michtron Software libraries.
  * Individual programs uploaded singly rather than ARC'ed. An example of this
    is where a program consist's of the main program, dat files and docs and
    the user upload's the main program, docs, and dat files seperately instead
    of arcing them together. The upload's will counted as one upload.
  * Files must be at least 4k in length to count as an upload.

-Files submitted for the Best GFA program MUST include the source code.

-Employee's of Genie, Michtron, and the Sysop's of the MichTron RT are not
 eligible for the contest.

-The decision to reject or accept a file submitted rest's in the hands of the
 sysops and their decision is final!

-The prize for the best GFA BASIC program will be awarded for the best GFA
 Basic program uploaded by it's AUTHOR during the contest. Previous submissions

 to the MichTron RT do not count. <sorry>

REMEMBER ALL UPLOADS DURING THE EVENING AND ON ALL DAY ON WEEKENDS ARE FREE !

Good Luck to all of you. Programs previously uploaded elsewhere are eligible
for the contest as long as they are GFA BASIC programs. Entries do not become
the property of MichTron but they will be posted in the Michtron RT Library.

The files can be uploaded elsewhere and shareware programs are eligible. As for

the copyright the author may keep it but the programs must be PD or shareware.

The whole purpose of the contest is to try to get some really good GFA PD

programs.

Remember to get to the MichTron RT just type move 490 at any prompt!

EDUCATIONAL SOFTWARE

Because I've been working with kids and computers (and perhaps because I have

five kids and three computers), I am frequently asked to recommend
"educational" software. This question always catches me off guard, because it
brings with it an attitude regarding computers (and education, for that matter)

that I simply do not share. In my experience, the educational value of a
computer has more to do with HOW the computer is used than with what programs
are run on it.

Most people have a concept of "educational" software which includes programs
that teach or provide practice in specific academic skills. Most programs of
this kind are electronic worksheets, and few serve any greater purpose than
the little workbooks one can pick up for $1.29 at K-Mart. Even if I didn't know

about the various studies on it, I could tell you from watching the kids that
the question-and-answer-type program is not very effective. We do own a few,
like Algebra I (MichTron), which our oldest likes a lot, and Decimal Dungeon
(Unicorn), which he regards as "ok". But really, my feeling about computers in
education is that children should use them as they are used in the real world,
because a child's world IS a real world. Our basic software list for our
children is essentially the same as that an adult would want.

The job doesn't end with the provision of programs, of course--the kid has to
learn how--and when--to use them. Parents and teachers can help him learn to
use the programs and play games with him, but they can also observe the child's

needs and point out when the computer can help meet them if he doesn't think of

it himself.

Our son Danny hates to write manually, and I think it's because of the
awkwardness of error-correction with pen or pencil. He will write long stories
and reports with a word processor, though, and go over his work several times
making small corrections before he prints it out. He didn't see the correction
potential of word-processing until I pointed it out. The desire to type his
homework provided motivation to learn touch-typing (by the way, many children
are not developmentally ready to exercise this degree of fine-motor control in
the grade school years). Danny enjoys drawing, and he uses NEO or Degas to
illustrate his reports. He writes his own programs for his own purposes--he has

one that keeps track of his savings toward a radio-controlled car, for
example. In other words, Danny has learned to regard the computer as adults
do--as a TOOL, not a toy, and he uses it for his own real purposes just as
adults do.

Thus, I would recommend this "starter package" for home or school, age 8 and
up:

1. a good drawing program
2. a good, easy-to-use word processor
3. a programming language
4. a few desk accessories (especially an on-screen calculator)
5. a typing tutor (for children who do not already touch-type)

6. a music program
7. and a LOT of games that challenge one's thinking skills

My starter package for preschoolers is not much different.

SPECIFIC RECOMMENDATIONS

Providing all this software need not be an enormously expensive endeavor. There

are adequate (and sometimes superior) public domain alternatives in most
categories in my starter package. It also isn't necessary to provide everything

from the start, although it would be wise to introduce at least one program
from each category during the child's first few months with the computer. The
order in which these programs should be acquired is an individual matter,
depending upon the child's own needs and interests. I list below some programs
in each category which children in grades 3 and over are likely to find useful
and usable. There are certainly others, but these are the ones I have observed

children using successfully with genuine educational benefits.

1. Drawing--
   Commercial: Degas, Degas Elite (Batteries Included)
          PD: NEO, Kidsketch, Kidgrid2, Kidgraph

2. Word Processing--
   Commercial: 1st Word, Kidtalk (1st Byte)
          PD: STWriter, Word 400

3. Programming Language--
   Commercial: GFA (MichTron) (forget LOGO and STBASIC--children of this age
   will simply not be satisfied with their products in these languages)
          PD: No acceptable substitute

4. Desk Accessories--
          PD: Rastacalc (calculator), Eternal Ram Disk

5. Typing Tutor (not needed if the child can already touch type)
   Commercial: Word Invaders (Academy Software)
          PD: No acceptable substitute

6. Music Program--
   Commercial: Music Studio
          PD: Deluxe Piano (color), GFA Piano (monochrome), Kidnotes (age 10
              and under)

7. Games--
   Commercial: King's Quest series, Sundog, and the like, Word for Word (don't
   invest in Infocom programs for kids--they really need the graphics)
          PD: Deluxe Stone Age, DGDB (color), Awari (mono)

And here's a somewhat more limited listing of recommended programs for
preschoolers and first- and second-graders:

1. Drawing--
   Commercial: Preschool Kidprogs (MichTron)
          PD: Kidgrid,Kidgraph, Kidgrid2 (these last two for kids over 4 only)

2. Word Processing--

Commercial: Kidtalk (1st Byte)

3. Typing Tutor--
   Commercial: ABZoo (MichTron)
           PD: No acceptable alternative

4. Music Program--
   Commercial: Preschool Kidprogs (MichTron)
           PD: Kidpiano, Kidnotes, Kidsong1 ("Makin' Aiken")

5. Games--
   Commercial: Preschool Kidprogs (MichTron)
           PD: Barnyard2 ("Picture Barnyard")

THE MISGUIDED USE OF COMPUTERS IN THE SCHOOLS

Most local schools provide computers in each classroom and some have "computer
labs". The machines are used for isolated computing experiences. The kids may
play an "educational" game or work through an electronic worksheet, or they may

even learn some programming skills, but in all cases the use of the computer
seems to be a separate experience, essentially unrelated to other schoolwork
and other purposes. How much more beneficial it would be if schools showed kids

how to use computers FOR EVERYDAY NEEDS.

The computer becomes a tool. Now THAT's an education.

Submitted by D.A. Brumleve for the CUSTUG December Newsdisk, 1987. (c)1987 D.A.

Brumleve
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EXPO DETAILS
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FOR IMMEDIATE RELEASE
CONTACT: Howard Whitman, SCTE, (215) 363-6888

EXHIBIT FLOOR SOLD OUT FOR SCTE'S 1988 CABLE-TEC EXPO

There is no remaining exhibit space available for the 1988 Cable-Tec Expo, to
be held June 16-19 at the San Francisco Hilton and Towers in San Francisco,
Ca., it was recently announced.

Sponsored by the Society of Cable Television Engineers, Inc. (SCTE), Cable-Tec

Expo is a fully technical conference and trade show offering an instructional
exhibit floor featuring all areas of cable industry hardware, as well as a
wide variety of educational programs, hands-on training sessions and technical
workshops.

Over 85 exhibiting companies, displaying all types of products, services and
equipment used in the operation of cable television systems have rented space
on the exhibit floor for Cable-Tec Expo '88. The exhibit hall has been
carefully coordinated to provide industry suppliers with the opportunity to
present live technical demonstrations of their products in a relaxed and
non-commercial atmosphere. An added feature on the floor will be the Technical

Training Center offering additional equipment demonstrations.

"We are very encouraged by the interest the industry has shown in Cable-Tec

Expo '88," commented SCTE Executive Vice President Bill Riker. "The exhibit
hall has never sold out as quickly as it has this year, and we feel this bodes
very well for the overall success of the expo.

"This is the second year in a row that the exhibit hall has sold out, "Riker
continued. "Cable-Tec Expo '87 showed a 30% increase in attendance over the
previous year, and are confident that Expo '88 will be another record-breaking

event."

Riker added that companies wishing to exhibit at Cable-Tec Expo '88 can contact

SCTE national headquarters to be placed on a waiting list and contacted in the
event of an exhibitor's cancellation.

Registration packets for Cable-Tec Expo '88 will be mailed out to SCTE national

members in January 1988. Persons interested in further information on
Cable-Tec Expo '88 are encouraged to contact SCTE national headquarters at
(215) 363-6888.

CREATING YOUR OWN PRINTER CABLE

---

by Don Garr

Have you ever wanted to buy an Atari 850 interface but when you added up the
price for the interface and the cable, you needed to make it work, it was just
too much. The printer cable for the 850 runs about $30.00 and adding that to
the price of the interface has probably prevented more people from making the
purchase than just me. Everytime I look at the magazine adds and see the 850
for $99.00 I think, wow, I sure would like to get it but the whole purchase
would be more like $130.00.

Well now I have the answer for you...make your own cable. For less than $10.00
and these instructions you can construct your own cable. Go to Radio Shack and
get two connectors, a parallel printer connector: (1 cat. no. 276-1534A) price
$4.99 and a D-subminature MALE 15 pin connector (1 cat. no. 276-1527) price
$2.49. And the last ingredient you need is a cable with at least 12 conductors.

Now, how to connect them:

```
DB-15/850      36 pin (Centronics)
====================================
1.................. 1    data strobe
2.................. 2    data 0
3.................. 3    data 1
4.................. 4    data 2
5.................. 5    data 3
6.................. 6    data 4
7.................. 7    data 5
8.................. 8    data 6
11................ 14    Grnd
12................ 32    fault
13................ 11    busy
15................. 9    data 7
```

Your Atari computer sends data out of the I/O (Input/Output) port in an
arrangement called serial. Serial data is sent out 1 single bit at a time.

Standard printers are set up to receive data in an arrangement called parallel.

Parallel data is sent 8 bits at one time, hence all 8 bits are in parallel. The

850 interface receives the serial data from the computer saves the data until
it has 8 bits and then sends the data out in a parallel arrangement. If you
look at the signal cable above you'll see data 0 thru 7... totalling, yep you
guessed it, 8 BITS. Funny how that works out, isn't it?

And now for you Atari ST owners here's a pin out chart for creating a printer
cable for the ST. (Instead of a DB-15 you'll need to purchase a DB-25 (Radio
Shack cat. no. 276-1547) price $1.49.

```
DB-25      36 pin (Centronics)
============================
1........ 1
2........ 2
3........ 3
4........ 4
5........ 5
6........ 6
7........ 7
8........ 8
9........ 9
10...... 10
11...... 11
12...... 12
13...... 13
20...... 18
21...... 19
22...... 20
23...... 21
24...... 22
25...... 23
26...... 24
27...... 25
31...... 16
32...... 15
```

You know the thing about making your own cable is that you can save a bunch of
money and make it any length you want. You should limit the length to under
150' but I don't think that should normally be a problem with us home computer
buffs.

Well good luck, and happy computing (and printing).

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FOREM COUPON and CORRECTION NOTICE

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by Calamity Jane

I must apologize to Matt Singer... The discount coupon for the FoReM BBS
program that I worked up for him which appeared in Issue #12 of ST-Report and
Zmag81 is getting some response. But when I screw up I do a good job. I must
of been in New Mexico that morning, because on the coupon I have Farmington,
and Matt lives in Framingham. Geeze. Close but no cigar.

Do you know how LONG I stared at that coupon, while working it up >>?? Along
with the ad I received in the mail >>?? I have no excuse.

Thank you Matt, for calling my BBS, letting me know of my mistake and for being

so nice about it...

Try this...   Commnet Systems
                   50 Eaton Road
                   Framingham, MA 01701

For the most powerful BBS System for the IBM and Atari ST...   -=-CJ-=-

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_____

ERROR 164 (for 8 bitters)
_____

201366 S3/Utilities
    15-Dec-87 03:04:41
Sb: #201344-#mess.fix
Fm: Bill Wilkinson [OSS] 73177,2714
To: MR GOW 73167,3607

There is NO program that can GUARANTEE to fix a disk when you get an error 164.

An error 164 usually results when you have two files trying to use the same
spot on the disk. This usually happens because you have saved one file to
disk, done something illegal, and then saved a second file to the same disk.
The second file is probably okay and is probably completely accessible. But
the first file is simply GONE because the second file has written over the top
of it. Period.

Can you recover part of the damaged file? Possibly. But I would suggest that
unless it is a text file (e.g., a word processing data file or possibly a
LISTed -- NOT SAVEd -- program) the effort is bound to fail. Most SAVEd files,

whether binary files or BASIC programs, simply CAN NOT be restored if they are
missing pieces. Sorry.

Having said all that, what CAN you do with a damaged disk? Well, the DISKFIX
utility that is part of DOS 2.5 will at least TRY to recover as much of a disk
as it can. But if it decides a file is damaged beyond repair, it simply
removes the file from the directory! So I would recommend making a sector copy

of any damaged disk before attempting to use DOS 2.5's DISKFIX.COM program.

You can get DISKFIX here on CIS, in the DL's (DL 3, file DISKFI.*). But I
personally recommend that you send off to Atari for a copy of not only a disk
with DOS 2.5 but also a really good manual. The manual alone is worth the $10
or so that Atari charges.

Finally: The Atari DOS manual suggests this program to recover as much as
possible of a damaged file, so long as the file is not bigger than available
RAM in your machine:

```
 10  PRINT "INSERT DAMAGED DISK THEN GIVE NAME OF FILE TO RECOVER ";
 20  F=FRE(0)-300 : DIM BUF$(F),FILE$(20)
 30  INPUT FILE$
 40  OPEN #1,4,0,FILE$
 50  TRAP 100
 60  FOR I=1 TO F : GET #1,B : BUF$(I)=CHR$(B)
 70  NEXT I
 80  PRINT "FILE TOO BIG"
 90  END
 100 REM GET HERE ON ERROR...
 110 TRAP 120 : CLOSE #1
 120 PRINT "INSERT FORMATTED DISK THEN GIVE NAME TO SAVE FILE TO ";
 130 INPUT FILE$
 140 OPEN #2,8,0,FILE$
 150 PRINT #2; BUF$ ;
```

You could be neat and add line 160:

```
 160 END
```

Finally, line 150 might be safer done as:

```
  150 FOR J=1 TO I-1 : PUT #2,ASC(BUF$(J)) : NEXT J
```

OOPS...One more finally.

In one of my articles in COMPUTE in that last year, I discussed probable causes

of messed up disks. I noted that I personally have virtually NEVER had a disk
messed up by DOS. Reason: I never never never change disks unless the program

tells me to do so. If I am changing disks while using BASIC, I always type
"END" before doing so. In desparation, I will hit RESET before changing.

The single most common cause of disk crashes is inserting a new disk while a
file (or files) is still OPEN for output on the first one. This can happen
with word processing programs, data bases, etc., etc. ALWAYS WAIT for the
program to tell you it is time to swap disks. ALWAYS use the menus to get to
the "disk change" point. NEVER just yank a disk and plunk in a new one.

These are a FEW hints from that article.   Good luck.

_____

SURGE PROTECTION

_____

Copyright (C) 1987 by Garry Jones

DO-IT-YOUSELF SURGE PROTECTION FOR YOUR COMPUTER

When setting up a computer system, one piece of equipment which might get overlooked is a surge protector. The purpose of a surge protector is to protect

equipment from voltage spikes and surges caused by lightning strikes on power lines (c'mon, it never rains is Southern California, does it?), electrical equipment turning on and off (you didn't really plug your computer into the same circuit as your refrigerator, did you?), the crummy wiring in your apartment that your landlords won't fix because they're too cheap, and just plain lousy performance by your friendly local Edison Company.

A surge protector works by clamping the voltage and preventing it from rising beyond 130 volts when a sudden increase occurs. To do this, a surge protector uses a device called a metal oxide varistor, or MOV for short. Of course, you want to know if they wear out, and when they do, how to tell. MOVs do have a finite life, depending on the number and severity of surges they're exposed to.

When they fail, they typically create a short which will pop a circuit breaker if one is included in the circuit, immediately shutting off the power and saving the equipment.

Buying a surge protector is something of a problem, since not all surge protectors are created equal. Good ones are fairly expensive (there's plenty of expensive junk out there, too); how do you tell the good from the bad, and what do you do for cash after you spent the last of it on some superwhizbang software for your new computer? Good news for you clever hacker types who can tell a hot soldering iron when you pick it up (by the wrong end): Make your own surge protector. It's easy, it's cheap, and best of all, it might even work. For the rest of you who haven't developed opposable thumbs yet, watch the ground for pennies, steal candy from babies and sell it to bigger babies, see a loan shark, and read PC (Can you say, "PC?" Sure. I knew you could. It

does mean IBM, but your tongue didn't dry up and fall out of your mouth, did it?) Magazine's product tests and take their advice.

Anyway, on to the project. You'll need a power strip (make sure you get the kind you can disassemble with a screwdriver instead of a hacksaw), three metal oxide varistors:

(General Electric part no. V130LA20A (which means 130 volts 20 amps)
 Radio Shack catalog no. 276-568B),

some rosin core solder (DO NOT USE ACID CORE SOLDER OR FLUX: it will corrode the solder joints in time, ruining them), some miscellaneous tools, like Xacto knives, alligator clips, wire cutters, etc., and a soldering iron. Three hands would be nice, but you can probably manage with two. Most of us do.

Take the back off the power strip and look inside. If it has outlets, wires (three of them?), and a cord, it'll work. Notice the three wires inside: they're probably black, green, and white. White is the hot wire, green the ground, and black the common. Now, strip some insulation off the wires. Take one varistor and solder one of its' wire legs to the white wire, and the other leg to the green wire. Fasten an alligator clip to the leg being soldered between the solder joint and the varistor to prevent heat damage to the varistor while soldering. Do the same thing with the second varistor, except it

should be soldered to the green wire and the black wire. Solder the third varistor to the black wire and the white wire.

Clean the solder joints with a rag dipped in a little alcohol, and examine the joints. There should be a smooth shiny flow of solder between the wire leg of

the varistor and the copper wire in the power strip. If the joint is dull, lumpy, or flawed in appearance, resolder it. When all the joints look good, reassemble the power strip. Sit back. Relax. You're done now. Wasn't that easy? Can you say, "Easy?" Sure. I knew you could.

-Garry Jones- Compuserve: 72030,273   GENIE: GXRAY

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PROBING YOUR ST

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by Mr. Goodprobe

The following is a copy of a letter we received approximately 11/6/87.

" Dear Customer,

We very much appreciate your order for a Translator, or a Translator as part of

the Magic Sac Professional package. We're running late on shipping them, as you

know, and rather than leave you wondering what's going on, we thought we'd tell

you our current status.

We've always believed in telling our users about known bugs in our software, as

you've seen. We don't see any reason to change that policy on bugs in our production process. It's always a little harder having your warts bared in public, but we think you appreciate our honesty.

First, the Translator is done, and has been for a long time. We've found a few minor bugs in it, all fixed, during the last couple of months, but they are minor stuff-- mis-spellings in diagnostic messages, stuff like that. I've got ten of them sitting in our lab and they work fine:these are ten I soldered by hand.

The hard part for us is getting the things made. It works in four stages. First, you get the circuit boards manufactured. Second, you obtain all the needed parts. Third, you get the parts soldered into the circuit board, and finally, you test, package, and ship the board.

The circuit boards are long since done. We obtained all the parts awhile ago. We had them soldered in...and none, zero, of the boards worked. Something was terribly wrong.

After a week of so of testing, we found that we'd mis-supplied a key chip. It was supposed to be a part compatible to an AD558 digital to analog converter, and indeed part of the manufacturer's part number had an AD558 in it. What it turned out to be was some weird clock chip. Anytime it was powered on, it sent minus two volt spikes into the rest of the board, which damaged other chips, chiefly the microprocessor.

This was very hard to find because every one of the AD588 chips we had was bad,

and every board they were plugged into became damaged. You just don't expect an

entire run of chips to be bad: you usually swap chips one at a time to look for

problems. And anytime we'd swap AD588's, it'd damage out another chip on the board.

Well, we finally got that solved. We had some real AD588's Fed-Exed in, removed

all the bogus AD588 chips and replaced them with real ones. Then we tested a lot of boards and replaced the chips that had been burnt out; naturally, the most expensive chip on the board, the 64180 microprocessor, was the one most often damaged. (We are considering making 64180 key-rings and selling them; we've got a supply of dead chips you wouldn't believe.)

Testing continued.

Now our salespeople were unaware of the extent of our problems. They were told that we thought we could have them worked out by the time we were ready to start shipping. Sometimes, you work on a problem and don't know when it will end until you've finished it. This was one of the problems.

Anyway, by the time all this trouble with parts was done, we'd missed our production slot at our board assembly house; they had another big order they had to work on. They scheduled us in for the next slot. Then the production manager up there quit, and we had to train a new person in the special testing techniques we use to make sure the boards are solid.

Well, the upshot of all this is we're going to be about two weeks late. We've got good parts now in quantity, boards, firm production and shipping dates, and

we will ship the week of Novemeber 16-20.

There's just no way we could speed up the process; we tried everything humanly possible to do it. When you're given bad parts, there's just nothing you can do.

I apologize to each and every one of you that ordered based on a Nov. 1 ship date, or earlier; while we can say "its not our fault", the truth is, it is our

responsibility, and we accept that. If you are tired of waiting and want your money back, I can understand it. just let us know, and we will return it to you

promptly and cheerfully.

It's been a hard number of weeks, with lots of late hours, trying to overcome these problems, so you'll understand this is a difficult letter for me to write. I don't like being late on orders. I very much appreciate the faith you've put in us by ordering, and I want to return that faith by being honest with you and telling you where things stand. yes, we are going to be two weeks late; yes, we did everything we could to avoid it; yes, we take responsibility for it. We certainly take credit for bad parts, but it's up to us to do something about it.

Again, those of you that have placed deposits are first in line for the units as they come off production testing, in our agreed-upon first-ordered first-shipped. No dealer or distributor is getting Translators ahead of you, count on

it. (Yes, we've received considerable pressure from distributors to do this, and we would not).

Our top priority at Data Pacific is getting these Translators out as soon as possible. We owe you, our customers, that for your patience. I'd like to tell you that if you have any problems getting the unit, or with the Translator itself, you can write or call me personally at Data Pacific, and I'll personally make sure we get it straightened out in a hurry. It's really the

least I can do given the loyal support you have given me. Our address and phone

number are on the first page of this letter.

Again, thank you for your support; our company wouldn't exist without you, and
we're well aware of it. We believe we have the best customers around; time and
time again they've proven it with bug reports, by letting us know how to
improve the product, by telling us what we need to know to be a service-
oriented company.

Thanks for taking the time to read this letter.

Sincerely,
Dave Small
Developer "

The reason I brought this to your attention is: this letter is a good lesson to

anyone who is in business, or hopes to dive into this fascinating world of
computer products. Data Pacific, despite all the problems they had, took the
blame for what happened. That shows me that they have the character one looks
for, and sadly rarely ever finds. When an unhappy customer calls your place of
business, the last thing they want to hear is "It's not my fault!" Data Pacific

took the blame for something they really had no control over, and that shows me

that they truly are a company which is going to support their product well,
answer any questions you might have, and do things in general the old fashioned

way. This is all the more reason you should feel comfortable in purchasing the
Magic Sac cartridge for your ST, and the Translator One, which allows your St
to directly read Macintosh disks. There is no better feeling than knowing if
you have questions, the company who made an item is more than willing to help
you in your dilemma.

      Mr. Goodprobe

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